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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**
**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

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| In re Patent Application of | Conf. No.: 9938 |
| BRISCOE, et al. | Atty. Ref.: LSN-36-2011 |
| Serial No. 10/593,442 | TC/A.U.: 2463 |
| Filed: September 19, 2006 | Examiner: Omar J. Ghowrwal |
| For: TREATMENT OF DATA IN NETWORKS | |

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September 7, 2010

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**APPEAL BRIEF UNDER 37 C.F.R. § 41.37(c)**

Sir:

Applicant has appealed to the Board of Patent Appeals and Interferences (Notice of Appeal filed July 7, 2010) from the last decision of the Examiner (Final Office Action dated March 8, 2010). An Appeal Brief pursuant to 37 C.F.R. § 41.37(c) is now presented.

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## (I) REAL PARTY IN INTEREST

The real party in interest is British Telecommunications public limited company, a British corporation of the United Kingdom.

## (II) RELATED APPEALS AND INTERFERENCES

The appellant, the undersigned, and the assignee are not aware of any related appeals, interferences, or judicial proceedings (past or present), which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

## (III) STATUS OF CLAIMS

Claims 1-14 are pending and have been rejected. No claims have been substantively allowed. The rejections of claims 1-14 are being appealed.

## (IV) STATUS OF AMENDMENTS

No amendments have been filed since the date of the Final Rejection.

## (V) SUMMARY OF CLAIMED SUBJECT MATTER

Each independent claim, each dependent claim argued separately, and each claim having means plus function language is summarized below including exemplary reference(s) to page and line number(s) of the specification.

A. Introduction

Certain exemplary embodiments relate to information concerning the characterization of paths taken by data travelling between nodes in data networks comprising sender, receiver, and intermediate nodes. Upstream nodes are arranged to provide path characterization information to intermediate nodes via portions of the paths between the provider nodes and the intermediate nodes, with such path characterization information being dependent on information fed back from the receiver nodes to the provider nodes. An intermediate node (1) receives data from upstream nodes; (2) receives path characterization information from an upstream node, and derives therefrom information indicative of a characteristic of a portion of the path between the intermediate node and the receiver node; (3) selects, in dependence on said information indicative of said characteristic, a preferred manner of treatment for data to be forwarded; and (4) forwards data to a downstream node according to said preferred manner. Certain exemplary embodiments are advantageous in that intermediate nodes may essentially take the role of intelligent routers, for example, to make informed decisions with regard to the onward routing of packets they receive based on information relating to the dynamic state of the downstream path to the destination (e.g., from the intermediate node to the

intended receiver) -- without the need for upstream routing messages along the path in use other than those from the eventual receiver node back to the provider node.

B. Independent Claim 1

Independent claim 1 relates to an intermediate node (e.g., 24 in Fig. 2; p. 14, lines 1-2) for controlling the treatment of data traversing a path across a data network (e.g., 21 in Fig. 2; p. 13, lines 20-26) from a provider node to a receiver node (e.g., 22 and 26 in Fig. 2; p. 10, lines 9-16; p. 14, lines 1-2). The data network comprises said intermediate node, at least one upstream node, and a plurality of downstream nodes (e.g., Fig. 2 network; p. 10, lines 9-16). The or one of the upstream nodes is/are arranged to provide data to said intermediate node via a portion of the path between the provider node and the intermediate node (e.g., p. 10, lines 9-16). The or one of the upstream nodes is/are arranged to provide path characterization information to said intermediate node via a portion of the path between the provider node and the intermediate node (e.g., p. 10, lines 9-16). Said path characterization information is dependent on information fed back from the receiver node to the provider node (e.g., p. 7, line 33 to p. 8, line 5). Said downstream nodes are arranged to receive data via respective portions of paths between the intermediate node and the receiver node (e.g., p. 10, lines 9-16). Said intermediate node comprises: means for receiving data from an upstream node (e.g., p. 8, line 30 to p. 9, line 4; p. 10, line 17; p. 14, line 34 to p. 15, line 6; p. 18, line 5); means for receiving path characterization information from an upstream node, and for deriving therefrom information indicative of a characteristic of a portion of the downstream path between the intermediate node and the receiver node (e.g., p. 10, lines 1-7 and 18-20; p. 18, line 28 to

p. 19, line 30); means arranged to select, in dependence on said information indicative of said characteristic, a preferred manner of treatment for data to be forwarded (e.g., p. 10, lines 1-7 and 21-23; p. 11, lines 9-19; p. 18, line 28 to p. 19, line 30); and means for forwarding data to a downstream node according to said preferred manner (e.g., p. 10, lines 24-25; p. 18, line 28 to p. 19, line 30).

C. Dependent Claim 2

In addition to the features of claim 1, dependent claim 2 further specifies that the selection of a preferred manner of treatment for data to be forwarded on a downstream path relates to selection of a preferred downstream path (e.g., p. 8, line 30 to p. 9, line 4; p. 11, lines 9-19; p. 17, lines 11-25).

D. Dependent Claim 3

In addition to the features of claim 1, dependent claim 3 further specifies that the selection of a preferred manner of treatment for data to be forwarded relates to selection of one or more of the following: (i) traffic engineering; (ii) route advert verification; (iii) contract verification; (iv) differentiated service gateways (e.g., p. 8, line 30 to p. 9, line 4; p. 17, lines 11-25).

E. Dependent Claim 4

In addition to the features of claim 1, dependent claim 4 further specifies that the data provided to said intermediate node comprises said path characterization information (e.g., p. 8, line 30 to p. 9, line 4; p. 10, line 17; p. 14, line 34 to p. 15, line 6; p. 18, line 5).

F. Dependent Claim 7

In addition to the features of claim 1, dependent claim 7 further specifies that the means arranged to select a preferred manner of treatment for data to be forwarded comprises means for selecting one of said downstream nodes as a preferred downstream node (e.g., p. 8, line 30 to p. 9, line 4; p. 10, lines 1-7; p. 11, lines 4-6 and 9-19; p. 17, lines 11-25; p. 18, line 28 to p. 19, line 30); and the means for forwarding data according to said preferred manner comprises means for forwarding data to said preferred downstream node (e.g., p. 8, line 30 to p. 9, line 4; p. 11, line 7 and 9-19; p. 17, lines 11-25; p. 18, line 28 to p. 19, line 30).

G. Independent Claim 8

Independent claim 8 relates to a method for controlling the treatment by an intermediate node (e.g., 24 in Fig. 2; p. 14, lines 1-2) of data of data traversing a path across a data network (e.g., 21 in Fig. 2; p. 13, lines 20-26) from a provider node to a receiver node (e.g., 22 and 26 in Fig. 2; p. 10, lines 27-34; p. 14, lines 1-2). The data network comprises said intermediate node, at least one upstream node, and a plurality of downstream nodes (e.g., Fig. 2 network; p. 10, lines 27-34). The or one of the upstream nodes is/are arranged to provide data to said intermediate node via a portion of the path between the provider node and the intermediate node (e.g., p. 10, lines 27-34). The or one of the upstream nodes is/are arranged to provide path characterization information to said intermediate node via a portion of the upstream path between the provider node and the intermediate node (e.g., p. 10, lines 27-34). Said path characterization information is

dependent on information fed back from the receiver node to the provider node (e.g., p. 7, line 33 to p. 8, line 5). Said downstream nodes are arranged to receive data via respective portions of paths between the intermediate node and the receiver node (e.g., p. 10, lines 27-34). The intermediate node receives data from an upstream node (e.g., p. 10, line 35; p. 14, line 34 to p. 15, line 6; p. 18, line 5). The intermediate node receives path characterization information from an upstream node, and derives therefrom information indicative of a characteristic of a portion of the downstream path between the intermediate node and the receiver node (e.g., p. 10, lines 1-7; p. 11, lines 1-3; p. 18, line 28 to p. 19, line 30). The intermediate node selects, in dependence on said information indicative of said characteristic, a preferred manner of treatment for data to be forwarded (e.g., p. 10, lines 1-7; p. 11, lines 4-6 and 9-19; p. 18, line 28 to p. 19, line 30). The intermediate node forwards data to a downstream node according to said preferred manner (e.g., p. 11, line 7; p. 18, line 28 to p. 19, line 30).

H. Dependent Claim 9

In addition to the features of claim 8, dependent claim 9 further specifies that the step of selecting a preferred manner of treatment for data to be forwarded relates to selecting a preferred downstream path (e.g., p. 8, line 30 to p. 9, line 4; p. 17, lines 11-25).

I. Dependent Claim 10

In addition to the features of claim 8, dependent claim 10 further specifies that the step of selecting a preferred manner of treatment for data to be forwarded relates to

selection of one or more of the following: (i) traffic engineering; (ii) route advert verification; (iii) contract verification; (iv) differentiated service gateways (e.g., p. 8, line 30 to p. 9, line 4; p. 17, lines 11-25).

J. Dependent Claim 11

In addition to the features of claim 8, dependent claim 11 further specifies that the data provided to said intermediate node comprises said path characterization information (e.g., p. 10, line 35; p. 14, line 34 to p. 15, line 6; p. 18, line 5).

K. Dependent Claim 13

In addition to the features of claim 8, dependent claim 13 further specifies that the intermediate node shares computational resources with an upstream or a downstream node (e.g., p. 3, line 27 to p. 4, line 1; p. 32, lines 1-2).

L. Dependent Claim 14

In addition to the features of claim 8, dependent claim 14 further specifies that the selecting step comprises selecting one of said downstream nodes as a preferred downstream node (e.g., p. 8, line 30 to p. 9, line 4; p. 10, lines 1-7; p. 11, lines 4-6 and 9-19; p. 17, lines 11-25; p. 18, line 28 to p. 19, line 30); and the forwarding step comprises forwarding data to said preferred downstream node (e.g., p. 8, line 30 to p. 9, line 4; p. 11, line 7 and 9-19; p. 17, lines 11-25; p. 18, line 28 to p. 19, line 30).

## (VI) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

First, claims 1, 4, 6, 8, 11, and 13 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Cain (U.S. Publication No. 2003/0202469).

Second, claims 2-3, 7, 9-10, and 14 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Cain in view of Saadawi et al. (U.S. Publication No. 2004/0146007).

Third, claims 5 and 12 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Cain in view of Seidel et al. (U.S. Publication No. 2001/0055290).

## (VII) ARGUMENT

### A. Claims 1, 4, 6, 8, 11, and 13 Are Not Anticipated By Cain.

Claims 1, 4, 6, 8, 11, and 13 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Cain (U.S. Publication No. 2003/0202469). This rejection is erroneous and should be reversed for at least the following reasons.

Claim 1 relates to an intermediate node for controlling the treatment of data traversing a path across a data network from a provider node to a receiver node. An upstream node is "arranged to provide path characterization information to said intermediate node via a portion of the path between the provider node and the intermediate node, said path characterization information being dependent on information fed back from the receiver node to the provider node. . . ." The precise structural means that the intermediate node itself includes also is explicitly spelled out in claim 1. Claim 8 calls for a corresponding method. This subject matter is not identically disclosed in Cain as detailed in claims 1 and 8. Thus, Cain does not anticipate claim 1 or claim 8 (or their respective dependents).

At least the above-identified language distinguishes the claimed "intermediate node" and its operation from a node operating according to prior art techniques where quality of service (QoS) routing is based on routing tables. In particular, the claimed intermediate node selects a manner of treatment for forwarded data not based simply upon any characterization information received from any upstream node. Rather, it is restricted to past characterization information dependent upon information fed back from a specific node defined as the "provider node" in the context of the specifically defined

path from the provider node to the receiver node to which the claims relate. By virtue of this arrangement, the claimed intermediate node is not dependent upon receiving normal, regular routing updates, as is the case with certain prior art techniques relying upon routing tables. Instead, the claimed arrangement may change the basis upon which it selects the manner for forwarding data traversing a path from a provider to a receiver node -- perhaps even as often as it receives data traversing that path.

The advantages of exemplary embodiments where data traverses a network in the form of packets having IP headers containing relevant path characterization information become apparent upon reflection. According to such exemplary techniques, an intermediate node would be able to change the basis upon which it selects the manner to forward data packets traversing a path from a provider node to a receiver node as often as it receives packets traversing that path that carry, in their headers, path characterization information dependent on information fed back from the relevant destination to the relevant source.

In contrast, to enable such frequent routing updates by means of the prior art technique of distributing updated routing tables would be hugely wasteful of network resources.

It will be appreciated, of course, that exemplary embodiments of claims 1 and 8 do not necessarily preclude the provision of updated routing tables to nodes, as well. But using the techniques of certain exemplary embodiments would generally involve the far less frequent distribution of updated routing tables to nodes as compared to a situation when only prior art techniques are used. For example, where routing table updates are currently distributed as frequently as one or more per minute, a network whose nodes are

operating according to exemplary embodiments of the claim 1 or claim 8 might operate with routing table updates being distributed as infrequently as one or less per hour or day.

More specific technical deficiencies with respect to Cain will now be explained in detail first with reference to claim 8. Of course, as indicated above, claims 1 and 8 relate to an analogous apparatus and method, and thus the numerous deficiencies of Cain with respect to claim 8 apply with equal force to claim 1.

Claim 8 relates to a method through which an "intermediate node" controls the treatment of data traversing a path across a data network. An intermediate node and its relationship to a provider node and to a receiver node within a data network are defined in the introductory portion of this claim, and the steps of the method involve:

- receiving data from an upstream node;
- receiving path characterization information from the upstream node, and deriving therefrom information indicative of a characteristic of a portion of the path between the intermediate node and the receiver node;
- selecting, in dependence on said information indicative of said characteristic, a preferred manner of treatment for data to be forwarded; and
- forwarding data to a downstream node according to said preferred manner.

As claim 8 makes explicit, each and every one of these steps is performed by the intermediate note itself. Indeed, the "decision-making" step (of "selecting . . . a preferred manner of treatment for data to be forwarded") and the "active" step relating to the action taken (of "forwarding data . . . according to said preferred manner") as a result of this decision-making step are specifically identified as being steps performed by the intermediate node. Similarly, corresponding claim 1 relates to the intermediate node itself, and the elements thereof responsible for performing the respective functions are all likewise all elements of the intermediate node.

To the extent that any node or entity in Cain selects a manner of treatment for data to be forwarded (irrespective of whether or not this is based on information fed back from a downstream node/entity), only the "source node" in Cain can be said to perform such a decision-making step in respect of data being forwarded that corresponds in any way to the "selecting" decision taken according to claims 1 and 8.

As a result of this fundamental difference between Cain and the currently pending claims, there is little actual correspondence between the elements of claim 1 and elements of the system disclosed in Cain, or between the steps of claim 8 and steps of the technique disclosed in Cain. In fact, only the initial step of "receiving data from an upstream node" in claim 8, and the corresponding initial "means for receiving data from an upstream node" in claim 1, can correctly be regarded as corresponding to steps/elements disclosed in Cain. Thus, the surface-level similarities between claims 1 and 8 and Cain do not survive a more careful analysis. Simply stated, although Cain initially appears to be of some relevance to the inventions of claims 1 and 8, a more detailed comparison between the claims and Cain reveals that although some similar functional aspects do appear in Cain, they are tied to the wrong structural elements. As developed in more detail below, Cain is in fact far removed from the inventions of claims 1 and 8.

Cain relates to routing within a network, and uses a feedback loop that is used for managing Quality of Service (QoS) in the network. To this end, such might initially appear to be potentially of relevance. However, the manner in which the feedback loop is used and the effect achievable by Cain as a result differ significantly from the currently pending claims.

In Cain's admission control system, the nodes are operable to police admitted traffic to ensure that once accepted/admitted, the admitted traffic does not then exceed the criteria according to which it was accepted. A "Route Request" message (RREQQ) is sent from a source node towards a destination node via a plurality of intermediate nodes, the message containing a traffic flow identifier setting out a required QoS for a route. The first intermediate node assesses whether it can meet the requirement and then accepts or rejects the request. If it accepts the request, it forwards the route request message to the next intermediate node, and this process continues either until an intermediate node refuses the request or until the message reaches the destination node. If all the intermediate nodes do accept the request on a particular route to a predetermined destination, they then police forwarded traffic as explained above and provide the required QoS for the accepted request.

While it appears to be reasonable to regard the route request messages (RREQQ) of Cain as containing "path characterization information" of some sort as they traverse between the source node and the intermediate nodes (since they contain QoS metrics), it will be appreciated that they only provide information on the required/requested QoS metrics for a suitable downstream path -- not on actual fed-back QoS metrics of the downstream path. Cain therefore does not provide any "means . . . for deriving therefrom information indicative of a characteristic of a portion of the path between the intermediate node and the receiver node," inasmuch as the QoS metrics in the route request messages of Cain only contain information relating to what *will be required* of a portion of the path between the intermediate node and the receiver node, and therefore do not contain information relating to any actual fed-back characteristics thereof.

Furthermore, in Cain, the intermediate nodes only perform the task of accepting or rejecting the request based on desired QoS information relating to the upstream path (i.e., because the QoS metrics in the "RREQQ" messages do not depend on information received from the destination). Therefore, while clearly playing a role in enabling routing decisions to be taken in a network, the intermediate nodes in Cain do not actually perform a role corresponding to the role that is performed by an intermediate node in accordance with claims 1 and 8.

Instead of substantively responding to the above-noted deficiencies, the Final Office Action continues to improperly mix-and-match functionality of Cain's intermediate node 3 and Cain's source node 1 in an attempt to establish a case of alleged anticipation. Of course, combining the aspects of wholly separate structural elements is particularly improper in the context of a § 102 rejection.

The Examiner is, of course, free to attempt to demonstrate that the currently pending claims are anticipated by selecting any node from a prior art reference, whether it be Cain or otherwise, before attempting to map the specifically claimed features/steps to the prior art. But whatever node is selected, the rejection must then be consistent in regarding that node as "the intermediate node" for purposes of the whole claim. Unless a particular node exists in the context of the other nodes/entities referred to, it cannot fairly be said to interact with them in the manner set forth in the claims, and the relied upon reference simply cannot anticipate the currently pending claims.

According to the Final Office Action's own discussion, it is not Cain's intermediate node 3, but rather source node 1, that makes relevant routing decisions. Yet Cain's source node 1 cannot make such a decision in the manner required by claim 1's

intermediate node, precisely because Cain's node 1 is the "source node" for the path in question. It therefore does not -- and cannot -- "receive data from an upstream node" on the path in question. And it does not -- and cannot -- "receive path characterization information from an upstream node" on the path in question. Thus, Cain's node 1 cannot derive the necessary "information indicative of a characteristic of a portion of the path between the intermediate node and the receiver node" in the manner required by claim 1 (i.e., deriving it from path characterization information received from an upstream node on the path in question). In short, Cain's source node 1 does not -- and cannot -- have an upstream node on the path in question from which to receive such path characterization information.

Referring only to claim 1, the Final Office Action confirms that the path being relied on to establish the alleged case of anticipation is path "1-3-5-4" in Cain. The Final Office Action then attempts to explain how Cain's intermediate node 3 has elements corresponding to the "means for receiving data from an upstream node" and the "means for receiving path characterization information from an upstream node . . ." as defined in claim 1. Some of the inconsistency in the Final Office Action's analysis becomes apparent, however, at the final and critical part of the argument relating to the "means arranged to select . . . a preferred manner of treatment for data to be forwarded" and particularly to the "means for forwarding data to a downstream node according to said preferred manner" as defined in claim 1.

The Final Office Action's argument in the penultimate sub-paragraph of page 4 thereof refers to the forwarding of data on the whole of path "1-3-5-4." This, of course, is the path from Cain's "source node 1" and thus includes a link upstream of the

intermediate node 3. However, intermediate node 3 cannot be said to have made the "selecting" decision in relation to the manner of treatment in question for data to be forwarded on that path (i.e., path "1-3-5-4"), because the path in question is a path that started upstream of itself.

The only node in Cain that could possibly have been involved in any "selecting" decision in respect of a path including the link from source node 1 to intermediate node 3, and the only node that could have been involved in any "forwarding" of data according to the selected "preferred manner," is Cain's source node 1. This is, of course, directly contrary to the express language of claim 1 and 8, which requires the selecting to be performed by the intermediate node itself.

As Applicant has tried to explain, the Final Office Action's analysis of claim 1 relies on matching some of the elements of that claim's intermediate node with elements of Cain's intermediate node 3 -- but others with elements of Cain's source node 1. This sort of piecemeal analysis is fundamentally flawed, particularly in the context of a § 102 anticipation-type rejection.

Although a corresponding argument in relation to claim 8 was not provided, such "analysis" would similarly fall short of establishing a case of anticipation, as it also would have to rely on matching some of the steps performed by the intermediate node of Applicant's claim 8 with some steps performed by Cain's intermediate node 3 while leaving others for Cain's source node 1.

In a nutshell, the extraction of some of the features of Cain's intermediate node 3 and the extraction of some of the features of Cain's source node 1 for subsequent combination of such features is plainly improper in the context of a § 102 rejection and,

in any event, fails to expressly disclose or inherently require each and every feature of claims 1 and 8 (and their respective dependents). As such, Applicant respectfully requests that this rejection be reversed.

The rejection of claim 4 is flawed for yet further reasons. In particular, the antecedent for "said path characterization information" in claim 4 is found in parent claim 1 as characterizing the entire actual real world across a data network from a provider node to a receiver node (based on information fed back from the receiver node to the provider node in the real world). By contrast, the QoS request relied upon in the Final Office Action (e.g., the QoS metric in the RREQP message) comes only as an upstream request (expressing a source node desire) -- not based on any feedback information from the receiver or destination node (i.e., relating to actual source-to-receiver node path). The rejection of claim 4 therefore is improper for at least this further reason.

There is no detailed rejection of claims 8, 11, and 13. Thus, it is assumed that these claims are substantively allowable, there being no outstanding grounds of rejection to discuss.

**B. Claims 2-3, 7, 9-10, and 14 Are Not Unpatentable Over Cain and Saadawi.**

Claims 2-3, 7, 9-10, and 14 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Cain in view of Saadawi et al. (U.S. Publication No. 2004/0146007). This rejection is erroneous and should be reversed for at least the following reasons.

Fundamental deficiencies with respect to Cain have been noted above. The further introduction of Saadawi, even if appropriate (which Applicant does not concede), does not make up for these fundamental deficiencies. Thus, the alleged Cain/Saadawi combination does not teach, suggest, motivate or otherwise make obvious vis-à-vis *KSR* each and every feature of claims 5 and 12, and the rejection therefore is improper and should be reversed for at least this reason.

The Final Office Action illogically "combines" features from Cain and Saadawi even though these references teach mutually incompatible routing processes. This argues for a combination that would never have been made by one actually skilled in the art at the time of the invention -- and thus runs directly afoul of even *KSR*. More particularly, the Final Office Action even concedes that Cain does not teach an intermediate node capable of selecting a preferred downstream path (thus contradicting the earlier alleged anticipation of a parent claim by Cain). The Final Office Action then relies upon Saadawi's Forward Control Packet (FCP), wherein locally stored weights of neighboring nodes are used at an intermediate node to effect selection of a next node based on the FCP generated by a source node (i.e., apparently also without the benefit of feedback from the destination node), to supply this admitted deficiency. However, one typically does not just willy-nilly selectively change a network routing protocol in this manner -- at least not without hindsight. And even if such was attempted, neither of these reference appears to utilize feed-back control from a destination node in the manner claimed.

The Final Office Action asserts that a motivation underlying this change is "to aid in determining the next node to send an FCP to." Yet the Final Office Action does not identify any FCP in Cain's system -- or any perceived need in the context of the Cain

system to seek assistance in determining the next node (whether for an actual propagating message or an FCP). The factual predicate underlying the legal conclusion of obviousness simply is lacking here. The fact is that Cain and Saadawi teach entirely different routing protocols, and it would be illogical to make changes in Cain based upon Saadawi's teaching. Indeed, the sorts of changes contemplated by the Final Office Action would require a change to the underlying principle of operation of one or both of the networks -- a factor that weighs against the legal conclusion of obviousness. Reference is made, for example, to the USPTO's own recent Examination Guidelines Update: Developments in the Obviousness Inquiry After KSR v. Teleflex at the Federal Register, vol. 75, no. 169, September 1, 2010, pp. 53643-53660, especially at p. 53647, Example 4.2. *Crocs v. U.S. Int'l Trade Commn.*

The Final Office Action's failure to clearly articulate some rational basis for combining the features of Cain and Saadawi is still another reason why this rejection is improper and should be reversed.

**C. Claims 5 and 12 Are Not Unpatentable Over Cain and Seidel.**

Third, claims 5 and 12 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Cain in view of Seidel et al. (U.S. Publication No. 2001/0055290). This rejection is erroneous and should be reversed for at least the following reasons.

Fundamental deficiencies with respect to Cain have been noted above. The further introduction of Seidel, even if appropriate (which Applicant does not concede), does not make up for these fundamental deficiencies. Thus, the alleged Cain/Seidel combination does not teach, suggest, or motivate (or otherwise make "obvious" under *KSR*) each and

every feature of claims 5 and 12, and the rejection is improper and should be reversed for at least this reason.

## CONCLUSION

In conclusion it is believed that the application is in clear condition for allowance; therefore, early reversal of the Final Rejection and passage of the subject application to issue are earnestly solicited.

Respectfully submitted,

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## (VIII) CLAIMS APPENDIX

1. An intermediate node for controlling the treatment of data traversing a path across a data network from a provider node to a receiver node, the data network comprising said intermediate node, at least one upstream node, and a plurality of downstream nodes, the or one of the upstream nodes being arranged to provide data to said intermediate node via a portion of the path between the provider node and the intermediate node, the or one of the upstream nodes being arranged to provide path characterization information to said intermediate node via a portion of the path between the provider node and the intermediate node, said path characterization information being dependent on information fed back from the receiver node to the provider node, and said downstream nodes being arranged to receive data via respective portions of paths between the intermediate node and the receiver node; said intermediate node comprising:

means for receiving data from an upstream node;

means for receiving path characterization information from an upstream node, and for deriving therefrom information indicative of a characteristic of a portion of the path between the intermediate node and the receiver node;

means arranged to select, in dependence on said information indicative of said characteristic, a preferred manner of treatment for data to be forwarded; and

means for forwarding data to a downstream node according to said preferred manner.

2. An intermediate node according to claim 1, wherein the selection of a preferred manner of treatment for data to be forwarded on a downstream path relates to selection of a preferred downstream path.

3. An intermediate node according to claim 1, wherein the selection of a preferred manner of treatment for data to be forwarded relates to selection of one or more of the following:

(i) traffic engineering;

(ii) route advert verification;

(iii) contract verification;

(iv) differentiated service gateways.

4. An intermediate node according to claim 1, wherein the data provided to said intermediate node comprises said path characterization information.

5. An intermediate node according to claim 1, the data network comprising a data channel for the forwarding of data between nodes and a control channel for providing path characterization information to the intermediate node, wherein the upstream node arranged to provide data to said intermediate node is a node of the data channel, and the upstream node arranged to provide path characterization information to said intermediate node is a node of the control channel.

6. An intermediate node according to claim 1, wherein the intermediate node shares computational resources with an upstream or a downstream node.

7. An intermediate node according to claim 1,

wherein the means arranged to select a preferred manner of treatment for data to be forwarded comprises means for selecting one of said downstream nodes as a preferred downstream node; and

wherein the means for forwarding data according to said preferred manner comprises means for forwarding data to said preferred downstream node.

8. A method for controlling the treatment by an intermediate node of data of data traversing a path across a data network from a provider node to a receiver node, the data network comprising said intermediate node, at least one upstream node, and a plurality of downstream nodes, the or one of the upstream nodes being arranged to provide data to said intermediate node via a portion of the path between the provider node and the intermediate node, the or one of the upstream nodes being arranged to provide path characterization information to said intermediate node via a portion of the path between the provider node and the intermediate node, said path characterization information being dependent on information fed back from the receiver node to the provider node, and said downstream nodes being arranged to receive data via respective portions of paths between the intermediate node and the receiver node; said method comprising:

the intermediate node receiving data from an upstream node;

the intermediate node receiving path characterization information from an upstream node, and deriving therefrom information indicative of a characteristic of a portion of the path between the intermediate node and the receiver node;

the intermediate node selecting, in dependence on said information indicative of said characteristic, a preferred manner of treatment for data to be forwarded; and

the intermediate node forwarding data to a downstream node according to said preferred manner.

9. A method according to claim 8, wherein the step of selecting a preferred manner of treatment for data to be forwarded relates to selecting a preferred downstream path.

10. A method according to claim 8, wherein the step of selecting a preferred manner of treatment for data to be forwarded relates to selection of one or more of the following:

(i) traffic engineering;

(ii) route advert verification;

(iii) contract verification;

(iv) differentiated service gateways.

11. A method according to claim 8, wherein the data provided to said intermediate node comprises said path characterization information.

12. A method according to claim 8, the data network comprising a data channel for the forwarding of data between nodes and a control channel for providing path characterization information to the intermediate node, wherein the upstream node arranged to provide data to said intermediate node is a node of the data channel, and the upstream node arranged to provide path characterization information to said intermediate node is a node of the control channel.

13. A method according to claim 8, wherein the intermediate node shares computational resources with an upstream or a downstream node.

14. A method according to claim 8,

wherein the selecting step comprises selecting one of said downstream nodes as a preferred downstream node; and

wherein the forwarding step comprises forwarding data to said preferred downstream node.

## (IX) EVIDENCE APPENDIX

None.

## (X) RELATED PROCEEDINGS APPENDIX

None.